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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,373	06/24/2003	Carlos Avendano	CLABP204	2807
21912	7590	10/24/2006	EXAMINER	
VAN PELT, YI & JAMES LLP 10050 N. FOOTHILL BLVD #200 CUPERTINO, CA 95014			PENDLETON, BRIAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/606,373

**Applicant(s)**

AVENDANO ET AL.

**Examiner**

Brian T. Pendleton

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 33-38 is/are rejected.
- 7) ☒ Claim(s) 18 and 20-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 11, 12, 19, 33, 37, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Hermansky et al, US Patent 6,098,038. Hermansky et al teach a method and system for adaptive speech enhancement (audio signal) comprising a short-time analysis unit 10 (sub-band filter bank) for processing successive portions of the audio signal  $x(n)$ , compressor 16, expansion unit 20, and filter bank 18 for applying a nonlinear modification of the output of the filter bank, and resynthesis unit 22 for processing the modified sub-band filter bank output. As shown in figures 1a-1f, the gain is nonlinear. Claims 1, 19, 33, and 38 are rejected. Regarding claim 2, 37, column 3 line 61 – column 4 line 9 discloses performing short time Fourier transform processing to the audio input signal. As to claims 3 and 4, the filter responses shown in figures 1b and 1c illustrate amplifying the spectral magnitude of the audio signal. Per claims 5 and 6, figures 1d-1f disclose reducing the spectral magnitude. Regarding claims 7 and 8, there is disclosed filter bank 26. As to claims 11 and 12, the filter responses are nonlinear and there are a plurality of parallel nonlinear filters 18.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 10, 13-15, and 34-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansky et al. Hermansky et al do not disclose that the filter bank 18 has a linear filter, a set of parallel linear filters, IIR high self-filter, IIR low-shelf filter, or an FIR sharpener combined with an IIR smoother, as claimed in claims 9, 10, and 13-15. The choice of filter response for the filters 18 was obvious to one of ordinary skill based on the intended type of the spectral enhancement. An artisan would have realized any of the claimed filter responses without undue experimentation in the course of optimizing the audio signal spectral sound. Therefore the claimed filter responses were obvious to one of ordinary skill in the art. With regard claims 34-36, Examiner takes Official Notice that audio systems were capable of receiving audio signals from an external source, storage device, and physical media at the time of invention and it would have been obvious to use any of these sources in the invention of Hermansky et al.

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansky et al in view of Goff, US Patent 6,317,117. Hermansky et al do not disclose a filter response determined by a first time constant which is determined by a user input. Goff discloses a user interface for the control of an audio spectrum filter comprising a plurality of pushbutton keys in figure 7 which are used as the user interface. As illustrated in figure 8d, the cutoff frequency of the audio spectrum filter can be changed. The cutoff frequency is inherently related to a first time constant, therefore Goff discloses a user input which can adjust a first time constant which determines a filter response. It would have been obvious to one of ordinary skill

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in the art at the time of invention to modify Hermansky et al to include the user interface taught by Goff for the purpose of increasing the flexibility of the spectral modification and allowing user adjustment.

***Allowable Subject Matter***

Claims 18 and 20-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

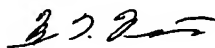
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. Pendleton  
Primary Examiner  
Art Unit 2615



btp